1-18-2021

Awareness and Use of Search Techniques as indicated in the Google user's manual by Postgraduate Students of Lead City University, Ibadan, Oyo State.

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Abstract

Precise and timely information in all aspects of human endeavor is key to the actualization of various goals. This study was carried out to determine the awareness and use of search techniques in searching for information in Google Search and Gmail by postgraduate students of Lead City University, Ibadan. The search techniques are recommended and documented by Google for efficiency in search operations. A total of 254 students were sampled using convenience sampling techniques and also filled out the structured questionnaire of which 173 copies were returned due to emergence of covid-19. Descriptive statistics was employed to analyze the data collected. The researchers found out that about half the population of the students were not aware of the techniques as specified in the Google documentation while a little more than average used Boolean operators and phrase searching, menu option was used to a great extent, but this is not so with specials characters as their extent of use was very far from average. Also, email operators recorded moderate usage by a great number of the respondents. As a result, it is recommended that Google push the search help techniques to the front page for users to see, and Information Retrieval should be taught as a general subject at undergraduate and postgraduate levels since electronic learning is the new paradigm.

Introduction

Immense growth in information communication technologies (ICTs) in the present era has irrefutably led to a revolution in human communication. Increasing generation/creation of electronic information resources (EIR) otherwise known as information explosion has changed traditional methods of information creation, storage, search, retrieval as well as communication of scholarly information. Moreover, in recent times, the internet has emerged as the most powerful medium of storage and retrieval of information and search remains the most performed internet activity.

According to Rouse (2011) Google is a multinational, publicly-traded organization built around the company's enormously prevalent search engine. It is an American multinational technology company that specializes in Internet-related services and products, which include online advertising technologies, a search engine, cloud computing, software, and hardware (Teresa, 2018) Google is search's most powerful innovator and driver (Hillis, Petit & Jarret, 2009). Its rapid growth since its incorporation has generated a chain of products, acquisitions, and partnerships beyond Google's core search engine (Google Search). Among its products is the popularly known Gmail. Google as a web search engine has become the synonym of search, meaning that, instead of search for it the popular statement is "Google it" its goal being the world largest search engine is to "organize the world's information and make it universally accessible and useful" and to create the "perfect search engine" that provides only intuitive, personalized, and relevant and precise results (Zimmer, 2008).

Statement of the Problem

- Information is worthless unless it can be efficiently located with a high level of precision at retrieval. At times user would have to modify their search queries severally before they finally get what they want
- The need to find ways of narrowing down the wide gap between the quantity of information available on the internet and the suitability as well as the precision of the information retrieved from it.
- While email in general is very popular among its users, there are also drawbacks with email usage: an increasing amount of messages that overwhelm users, as well as the complexity of the system for naive users.

Research Questions:

i. To know whether the students are aware of search techniques as indicated in the Google search manual.

ii. To what extent do the students make use of Boolean operators in searching for messages in Gmail?

iii. To what extent do the students use phrase searching in Google search?

iv. To what extent do the students make use of menu options in Google search?

v. To what extent do the students use special characters in Google search?

vi. To what extent do the students use email operators in searching for messages based on their status in Gmail?

vii. To what extent do the students make use of email operators in searching for messages based on their status in Gmail.

Literature review

Search has become a culture, it has become the most performed internet activity (Quinn 2014; Hillis, Petit & Jarret, 2009)

Email and search form the core of online communication. To support these assertions, in 2011 Pew Internet survey finds that 92% of online adults use search engines to find information on the Web, including 59% who do so on a typical day. This places search at the top of the list of most popular online activities among U.S. adults. Not only that, Among online adults, 92% use email, with 61% using it on an average day (Purcell, 2011). This means that search is what everybody does online.

In February 2016, Google announced that Gmail had passed 1 billion active users and In July 2017, Google announced that Gmail had passed 1.2 billion active users, Email client market share 2019 revealed Gmail as the email platform with the highest market share with 30% followed by apple iphone, outlook, apple mail, apple ipad, yahoo mail with 26%, 11%, 7%, 7% and 6% respectively Miller, 2016 & Matthews 2017). In a research carried out by Thenmozhi and Gomathi in 2018 on Use of Internet Search Engines among B.Ed. Students, it was

discovered that the majority of the users use Gmail as their favorite electronic mail platform with Gmail having 77.5% followed by yahoomail, Hotmail, reddifmail and others in their order of preference (Thenmozhi & Gomathi, 2018). Obviously, Gmail has gained more recognition and active use than other electronic mail platforms. In the case of Google as a search engine, several scholars has affirmed that Google is the most used search engine of all search engines. (Zimmer. 2019; Daniel, 2015).

However, as powerful as these two Google products are, they can only function effectively with use of appropriate search techniques as it is contained in the Google user manual found in the Google search help page. According to Xie, and Joo (2010), Search techniques consist of a series of sequential tactics that take into account both planned and situational elements. This statement was supported by Brehm,(1999) who asserts that search strategies is the organization of search keywords and symbols in order to conduct effective search on the web, extend and narrow search results accordingly. The utmost desire of every searcher is precision.

Methodology

Survey design was used for effective and convenient data collection from population of the study. A total of 254 students were sampled using convenience sampling techniques and also filled out the structured questionnaire of which 173 copies were returned due to emergence of covid-19. Descriptive statistics was employed to analyze the data collected using simple percentages.

Data Analysis

Table 1.

Variable	Category	Percentage
Gender	Male	62.4
	Female	37.6
Age Range	21 - 26	9.3
	26 -30	16.3
	31 -35	11.6
	36 - 40	15.7
	41-45	18.6
	45 - 50	11.6
	50 above	16.9
Educational Qualifications	Bachelor’s Degree	23.8

	PGD	18.5
	Master's Degree	52.4
	PhD	5.4
Faculties	Arts And Education	36.4
	Social Sciences	51.7
	Basic And Applied Sciences	11.3

From the table above, majority (62.4%) of the respondents are males and 37.6% are females. Looking at the age range, 18% of the respondents fall within age range "41 – 45" while age range 26 – 30 and 50 above were about the same percentage of 16.3% and 16.9% respectively. Age range 35-40 and 31 – 35 covers 11.6% each. However, the lowest age range of the respondents that participated in the study (9.3%) falls within age 21 – 26.

Moreover, average number of the respondents (52.4%) already has master's degree, they are either doing another master degree program or Ph.D. while 23.8% are first degree holders, 18.5% of them are doing post-graduate diploma program while the minority (5.4%) are Ph.D. students. In the same table also, the majority of the respondents (51.7%) are doing behavioral Sciences related courses, 36.4% of them are doing Arts and Education related courses while 11.3% are in Basic and Applied Sciences.

Use of Boolean operators in searching for messages in Gmail

Table 2

Search Technique	***Not Aware***	***Don't Use***	***To a small extent***	***To a moderate extent***	***To a great extent***
I use "OR" or { } to search for mails from different senders in Gmail	22.0%	22.5%	15.0%	19.7%	20.8%
I use "-" to exclude messages with a certain keyword from my search results in Gmail	28.3%	21.4%	20.2%	14.5%	15.6%
I use "+" when searching for messages that contain exact keyword in Gmail	25.7%	27.7%	19.1%	11.0%	16.7%

Summarily, the above table shows that a little above average (55.5%) of the respondents uses Boolean "OR" while 22.5% don't use and 22% are not aware of it when searching using Gmail.

Also, the table shows that 50.3% of the respondents uses "-" to exclude messages with certain keyword from search results in Gmail while 28.3% are not aware and 21.4% don't use it while searching on Gmail.

Finally, from the same table above, on the use of plus sign (+) to search for messages that contain exact keywords, majority (46.1%) of the respondents use it, 25.7% are not aware of it and 27.7% don't use it.

Phrase Searching in Google search
Table 3

Search Techniques	***Not Aware***	***Don't Use***	***To a small extent***	***To a moderate extent***	***To a great extent***
I use quotations marks (" ") to search for exact match of a word or phrase in Google search	18.5%	24.9%	19.1%	21.6%	15.2%

Table 3 above shows that a little higher than average (55.7%) of the respondents do phrase search when Google searching but 24.9% of the respondents don't phrase search and 18.5% of the respondents are not aware of phrase searching.

Menu Options in Google search
Table 4

Search Techniques	***Not Aware***	***Don't Use***	***To a small extent***	***To a moderate extent***	***To a great extent***
I use the images menu option when looking for image using Google search	9.8%	15.0	20.2	19.7%	34.7%
I use videos menu option when looking for videos using Google search	13.3%	17.3%	17.3%	20.8%	30.6%
I use news menu option when searching for news using Google search	8.7%	17.3%	20.8%	22.5%	30.6%
I use maps menu option when searching for a location using Google search	13.3%	14.5%	1 6.2%	18.5%	37.6%
I use books menu option when looking for books using Google search	9.8%	20.8%	22.5%	18.5%	28.3%

The table 4 above shows that:

Image menu option is often used as 74.6% of the respondents uses it. However, 15% don't use and 9.8% are not aware of it while Google searching.

Video Menu options is used by 68.7% of the respondents while 17.3% don't use and 13.3% are not aware of video menu option while Google searching.

The case is similar in the case of news menu option as close to 80% of the respondents uses it but even at that 17.3% of the respondents don't use and 8.7% are not aware of it.

Maps menu options also enjoys a high level of use as 72.3% uses it. However, 14% of the respondents don't use it and 13.3% are not aware of it.

In the case of books menu options, 69.3% of the respondents uses it, 20.8% don't use it and 9.8% are not aware of it.

Special Characters in Google Search
Table 5

Search Techniques	***Not Aware***	***Don't Use***	***To a small extent***	***To a moderate extent***	***To a great extent***
I use " @" when searching for words in social media using Google search	13.9%	21.4%	17.9%	17.9%	28.3%
I use"$" when searching for a commodity with a particular price using Google search	24.9%	23.7%	17.3%	20.2%	13.3%
I use "#" when looking for information on a particular hash tag using Google search	20.2%	22.5%	17.9%	17.9%	20.8%
I use s""..."" when searching for a range of numbers using Google search	21.4%	26.0%	15.0%	18.5%	18.5%

From the table 5 above, special character "@" is used by majority (64.1%) of the respondents. However, 21.4% of the respondents don't use special character "@" and 13.9% are not aware of it.

From the same table, it is crystal clear that although majority of the respondents (50.8%) uses special character "$" however, 24.9% of the respondents are not aware and 23.7% don't use it. when searching using Google search engine.

In the case of character "#" the same table 5 shows that (56.6%) majority of the respondents uses it. however, 22.5% don't use it and 20.2% of the respondents are not aware of it when searching using Google search engine.

On the use of ellipse ("…") when searching for a range of number using Google search, table 5 revealed that (52%) majority of the respondents uses ellipses when Google searching but 21.4% are not aware and 26% of the respondents don't use it.

Email Operators based on Gmail status

Table 6

Search Techniques	***Not Aware***	***Don't Use***	***To a small extent***	***To a moderate extent***	***To a great extent***
I use "from:" when searching for messages received from a particular sender in Gmail	13.3%	20.8%	18.5%	23.1%	21.7%
I use "to:" when searching for messages I sent to a particular sender in Gmail.	11.6%	17.3%	20.2%	23.7%	27.2%
I use "cc:" or "bcc:" when searching for a sent message in which a particular recipient received a copy in Gmail.	17.3%	22.0%	15.6%	20.8%	24.2%
I use "subject:" when searching for messages with some words as subject in Gmail	9.8%	19.7%	16.2%	17.9%	36.4%
I use "is:unread" when searching for unread messages in Gmail	14.5%	25.4%	17.9%	20.2%	21.4%
I use "is:read" when searching for read messages in Gmail	13.9%	23.7%	21.4%	16.8%	23.1%
I use "is:starred" when searching for starred messages in Gmail	14.5%	27.7%	22.5%	19.1%	16.2%
I use " is:snoozed" when searching for snoozed messages in Gmail	20.8%	26.0%	23.7%	13.3%	15.6%

From the table 6 above, looking at the overall extent of use, the table shows that majority of the respondents (63.3%) uses email operator "From". However, 20.8% of the respondents don't use it and 13.3% are not aware of it.

Concerning email operator "To", the table above revealed that more than average (71.1%) of the respondents uses it but a little lower than average don't use it with 17.3% of the respondents not using it and 11.6% of the respondents not aware.

In the case of email operator "cc:" and "bcc:" the above table reveals that "cc:" is often used by a little more than average percentage (60.6%) of the respondent. However, 22% of the respondents don't use and 17.3% were not aware.

In the case of "subject:" just like other operators the table above shows that majority of the respondents (65.2%) uses it. While 19.7% of the respondents don't use it and 9.8% are not aware of it.

For "is:unread" the above table revealed that over average percentage of the respondents (59.5%) uses "is:unread" while 25.4% don't use it and 14.5% are not aware.

Also, email operator "is:read" is used by more than average (61.3%) of the respondents. It further revealed that 23.7% don't use it and 13.9% are not aware of it.

In the case of operator "is:starred" unlike other email operators, the percentage (58%) level of usage falls below 60% while the percentage level of non- use and lack of awareness is very close to average (42%)

Finally, from the table above, it was revealed that the email operator " is:snoozed" unlike others, though often used, it did not enjoy a high level of use as 52.6% uses it and 20.6% don't use it and 13.3% are not aware of it.

Use of Email Operators based on Email Account in Gmail
Table 7

Search Techniques	***Not Aware***	***Don't Use***	***To a small extent***	***To a moderate extent***	***To a great extent***
I use "list:" when searching for messages from a mailing list in Gmail	11.6%	25.4%	19.1%	25.4%	17.9%
I use "delivered to:" when searching for messages delivered to a particular email address in Gmail	9.8%	19.1%	21.3%	21.4%	27.8%
I use "Rfc822msgid:" when searching for messages with a certain message-id header in Gmail.	38.7%	23.7%	12.1%	15.0%	8.6%

On the awareness and use of certain email operators when searching for messages based on email accounts in Gmail search. Table 7 above shows that:

Majority (62.4%) of the respondents always use “List” when searching for messages from a mailing list in Gmail. However, 25.4% don’t use it and 11.6% of the respondents are not aware.

Majority (70.5%) of the respondents do use “delivered to:” when searching for messages delivered to a particular email address in their Gmail box. 19.1% don’t use it and 9.8% are not aware.

Conversely, majority of the respondents (38.7%) are not aware of “Rfc822msgid:” when searching for messages with a certain message-id header in Gmail, although 35.7% uses it but 23.7% don’t use “Rfc822msgid:” while using Gmail

Discussion of Findings.

On the awareness and use of Boolean operators, the study corroborates the findings of Shafi, F. etal (2019). They discovered that students preferred using default and simple search tools rather than using advanced search attributes such as Boolean operators. From this study over 20% and overall average of 25% are not aware of nor use Boolean operators in Gmail search

A little above average (60%) of the respondents do phrase search while Google searching, and less than average percent (40%) of the respondents are not aware of nor always phrase search while Google searching. This also lend credence to Singh, Kaur and Brar’s stuy on Awareness and Use of Internet based Sources: A Case study of North India where they discovered that , out of 250 students that were sampled, 49.6% type the search statement in search box or search interface, followed by 42.8% typing the keywords in search box.

In the case of Menu options, all the menu options enjoys quite a high percentage of usage except for book menu options that 20.8% of the respondents don’t use and 9.8% are not aware of. For special characters, except “@” that majority are aware of, quiet a large percentage (over 40%) of

the respondents are not aware nor use them. This means that close to average don't use #, $, and "…".

On the awareness and use of email operators, except for "is snoozed" that 20% of the respondents are not aware of, all others enjoys a very high (60% and above) level of use.

A very high percentage distribution of respondents (38.7%) are not aware and 28.7% don't use "Rfc822msgid:" when searching for messages with a certain message-id header in Gmail.

Summary of findings

Prior to use, a major challenge that need to be addressed as observed by this study is the high level lack of awareness of the these techniques especially the email operators in Gmail and special characters in Google search.

Majority of the students used menu options to great extent although, few of them still claim not to be aware and some for reasons unknown do not use.

Quite a large percentage of students don't use the search techniques both in Google search and Gmail and this consequently has a negative impact on the precision rate of search results from the search engines because search engines are meant to function well with appropriate search queries.

It was found out that a small percentage of the postgraduate students use these search techniques to a great extent but the gap between use and lack of awareness is more of concern.

Recommendations.

A General Subject on information retrieval should be taught in the tertiary institutions as a general subject at undergraduate and postgraduate levels since electronic learning is the new paradigm.

Google mail search techniques should be displayed conspicuously for users to see as soon as they log in for precision.

Further studies should be carried out to delve into reasons users don't use the search techniques and why some use it to a small extent.

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